

CLAIMS

1. A distributed database system comprising:-

a central station for accumulating and distributing data on a database, and

a plurality of receiver stations for receiving said data and selectively making available at least portions of said data in accordance with the demands of a user of a said receiver station;

wherein said central station comprises: a data store for storing accumulated data from said database, ready for distribution; processing means for extracting said data from said data store and generating a sequential data stream therewith for distribution; and transmission means for encoding and transmitting said sequential data stream; and

a said receiver station comprises: decoder means to receive and decode transmitted data so as to reconstitute said database data therefrom; input means for a user of said receiver station to input user commands in respect of the demands of the user to said receiver station; receiver processing means for constituting a database from said data having regard to said user commands; memory means for storing data for constituting said database; and means for communicating selected data in direct response to said user commands.

2. The system of claim 1 wherein said decoder means includes: data acquisition means for extracting a serial data stream and a synchronising signal from the transmitted

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signal; a data decoder to filter out data control information from said serial data stream and reconstitute said database data; and transfer means to continuously transfer a stream of reconstituted data to said receiver processing means.

3. The system of claim 2 wherein said receiver processing means includes further decoder means to examine said stream of reconstituted data and extract said index data therefrom; and database handling means to determine storage of individual database data in accordance with a prescribed algorithm, whereby in response to a decision to store or update said individual database data, said database handling means is adapted to transfer said individual database data to a requisite storage location in said memory means and perform contingency action according to a prescribed algorithm involving changing the structure of said database so as to continuously constitute said database.

4. The system of claim 3 wherein said memory means comprises a predetermined amount of available space for storing communicable records of the constituted database, a separate space for storing an index table relating the records, and a communication memory for storing records for said means for communicating.

5. The system of claim 4 wherein said prescribed algorithm requires said database handling means to have regard to available space in said memory means, and in the absence of available space, have regard to said user commands as input

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with said input means.

6. The system of claim 5 wherein said prescribed contingency action also includes updating said index table with the index data of said individual database data being stored.

7. The system of claim 6 wherein said input means processes said user commands and a set of database search parameters input by a user, parses said constituted database stored within said memory means for communicable records falling within said search parameters, formats the selected records in accordance with a prescribed communication format, and passes said records to said communication memory.

8. The system of claim 7 wherein said means for communicating accesses said communication memory and includes a character generating means to generate characters for display purposes in respect of the communicable records stored in said display memory.

9. The system of claim 8 wherein said input means continuously parses said constituted database for additional communicable records falling within said search parameters and passes said additional records to said communication memory for communication purposes in response to receiving an appropriate user command input by the user.

10. The system of claim 9 wherein said prescribed communication format is separately definable by the discrete transmission of attribute data from said central station.

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11. The system of claim 10 wherein said decoder means, receiver processing means, input means and means for communicating operate concurrently with each other.

12. A database receiver for a distributed database system of the type defined in claim 1, said receiver comprising:-

decoder means to receive and decode data transmitted to the database receiver to reconstitute database data therefrom;

input means for receiving and processing user commands input by a user of said database receiver in respect of the demands of the user;

receiver processing means for constituting a database from said database data having regard to said user commands;

memory means for storing database data for constituting said database; and

means for communicating selected database data from said constituted database in direct response to said user commands.

13. A method for providing a distributed database for access and searching by a user comprising:-

accumulating and distributing data for the database to a plurality of users;

receiving and analysing the distributed data in accordance with the demands of the user for selective storage of the data;

searching the stored data in response to a user command having regard to the demands of the user; and

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communicating selected stored data conforming to the demands of the user, to the user.

14. A method for receiving distributed database data and selectively communicating the same to a user comprising:-

receiving and decoding distributed data to reconstitute  
database data therefrom;

receiving and processing user commands representative of the demands of a user;

constituting a database from the database data having regard to the user commands;

storing selected database data for the constituted  
database; and

~~communicating selected database data from the  
constituted database in direct response to the user  
commands to the user.~~

15. A distributed database system comprising at least a primary database in communication via communication means with a plurality of remote receiver stations; each remote receiver station including storage means adapted to store at least a selected portion of said primary database, each said receiver station further including data processing means adapted to process information stored in said storage means.

16. The system of claim 15 further including input means for a user of a said receiver station and wherein said data processing means processes information contained in data sent from said at least primary database and also processes information received from said input means in order to

determine which portions of said data and in what manner said portions of said data are to be presented to said user by said receiver station.

17. The system of claim 16 wherein the communication means comprises a selected portion of a TV transmission signal.

18. The system of claim 17 wherein said storage means is sufficient to store substantially the contents of said primary database.

19. The system of claim 17 wherein said storage means is sufficient to store only selected portions of substantially the contents of said primary database.

20. The system of claim 17 wherein the data stored in said primary database comprises more than one type of data.

21. The system of claim 17 wherein each said remote receiver station is adapted to receive and process said database data and to selectively receive and process said stream data.

22. The system of claim 16 wherein said communication means includes a first communication link adapted for transmission of data from said primary database to said plurality of remote receiver stations and at least a second communications link adapted for communication of data from said plurality of remote receiver stations to said primary database.

23. The system of claim 22 wherein said at least second communication link additionally is adapted for selective communication with a plurality of databases.

24. The system of claim 22 wherein said at least second

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communication link is bidirectional and comprises one of the public switched telephone network (PSTN), or cellular telephone network, or GSM telephone network.

25. The system of claim 22 wherein said subscriber stations connect to said at least second communication link by means of a microprocessor interface which comprises a modem.

26. The system of claim 25 wherein said first communications link is a high bandwidth link adapted to transmit primary data and secondary data with said primary data taking up a major portion of said bandwidth and said secondary data taking up a minor portion of said bandwidth.

27. The system of claim 26 wherein said at least second communication link has a relatively low bandwidth.

28. The system of claim 26 wherein said forward communications link comprises a TV broadcast signal and said primary data comprises broadcast TV information and said secondary data comprises database data.

29. The system of claim 28 wherein said data for transmission on said at least second communication link comprises a data message which may or may not elicit a response.

30. The system of claim 28 wherein said data for transmission on said at least second communication link comprises a request for information to be downloaded.

31. The system of claim 28 wherein said data for transmission on said at least second communication link initiates a voice call.

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32. A remote receiver station for use with the distributed database system of claim 15, said receiver station further including input means for a user and wherein said data processing means processes the information contained in data received from one or more sources of data and also processes information received from said input means in order to determine which portions of said data and in what manner said portions of said data are to be presented to said user by said receiver station.

33. The station of claim 32 wherein said data includes displayable data and executable data.

34. The receiver of claim 33 wherein said data can include executable data adapted for storage in storage means in said receiver for execution by said receiver station.

35. The receiver station of claim 34 wherein said executable data includes a control programme adapted to recognise the nature of said data and to update and/or replace portions of said data resident in said storage means.

36. The receiver station of claim 35 wherein said receiver station receives at least some of said data by means of a packet based object oriented protocol.

37. The receiver station of claim 36 wherein said data is categorised in said protocol as either object data or stream data.

38. The receiver station of claim 37 wherein said objects additionally include command objects and subscription control objects.



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39 A distributed database system comprising:  
a central station for accumulating and distributing data on a database, said  
central station comprising:  
a data store for storing accumulated data from said database, ready for  
distribution;  
processing means for extracting said data from said data store and  
generating a sequential data stream therewith for distribution; and  
transmission means for encoding and transmitting said sequential data  
stream; and  
a plurality of receiver stations for receiving said data and selectively making  
available at least portions of said data in accordance with the demands of a user of a said  
receiver station, each of said receiver stations comprises:  
decoder means to receive and decode transmitted data so as to  
reconstitute said database data therefrom;  
input means for the user of said receiver station to input user commands  
in respect of the demands of the user to said receiver station;  
receiver processing means for constituting a database from said data  
having regard to said user commands;  
memory means for storing data for constituting said database; and  
means for communicating selected data in direct response to said user  
commands;  
wherein said decoder means includes:

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data acquisition means for extracting a serial data stream and a synchronization signal from the transmitted data;

a data decoder to filter out data control information from said serial data stream and reconstitute said database data; and

transfer means to continuously transfer a stream of reconstituted data to said receiver processing means, and

wherein said receiver processing means includes:

further decoder means to examine said stream of reconstituted data and extract index data therefrom; and

database handling means to determine storage of individual database data in accordance with a prescribed algorithm,

whereby in response to a decision to store or update said individual database data, said database handling means is adapted to transfer said individual database data to a requisite storage location in said memory means and perform contingency action according to said prescribed algorithm involving changing the structure of said database so as to continuously constitute said database.

40. The system of claim 39, wherein said memory means comprises:  
a predetermined amount of available space for storing communicable records of the constituted database;  
a separate space for storing an index table relating the records; and  
a communication memory for storing records for said means for communicating.

41. The system of claim 40, wherein said prescribed algorithm requires said database handling means to have regard to available space in said memory means, and in the absence of available space, have regard to said user commands as input with said input means.

42. The system of claim 41, wherein said prescribed contingency action further includes updating said index table with the index data of said individual database data being stored.

43. The system of claim 42, wherein said input means processes said user commands and a set of database search parameters input by a user, parses said constituted database stored within said memory means for communicable records falling within said search parameters, formats the selected records in accordance with a prescribed communication format, and passes said records to said communication memory.

44. The system of claim 43, wherein said means for communicating accesses said communication memory and includes a character generating means to generate characters for display purposes in respect of the communicable records stored in said display memory;

wherein said input means continuously parses said constituted database for additional communicable records falling within said search parameters and passes said additional records to said communication memory for communication purposes in response to receiving an appropriate user command input by the user; and

wherein said prescribed communication format is separately definable by the discrete transmission of attribute data from said central station.

45. A remote receiver station for use with a distributed database system comprising at least a primary database in communication via communication means including a television signal with a plurality of remote receiver stations, comprising:  
storage means adapted to store at least a selected portion of said primary database;

data processing means adapted to process information stored in said storage means;  
input means for a user;

wherein said data processing means processes the information contained in data received from one or more sources of data and also processes information received from said input means in order to determine which portions of said data and in what manner said portions of said data are to be presented to said user by said receiver station;

wherein said data includes displayable data and executable data, and can include executable data adapted for storage in said storage means for execution by said remote receiver station;

wherein said executable data includes a control program adapted to recognize the nature of said data and to update and/or replace portions of said data resident in said storage means; and

wherein said receiver station receives at least some of said data by means of a packet based object oriented protocol.

46. The receiver station of claim 45, wherein said data is categorized in said protocol as either object data or stream data.

47. The receiver station of claim 46, wherein said objects additionally include command objects and subscription control objects.

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